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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,104	06/08/2001	Kevin W. Kobayashi	12-1101	2370

7590

01/15/2003

Patent Counsel
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EXAMINER

NGUYEN, KHAI M

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,104

Applicant(s)

KOBAYASHI, KEVIN W.

Examiner

Khai M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-16 which filed on 11-25-2002 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for filed under treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

3. Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Hau et al. (US 6,353,360). Hau et al. discloses a linear amplifier comprising: a power amplifier (306) having predetermined characteristics (gain & phase) including an input power range as a function of RF input power; a driver stage amplifier (304) serially coupled to the power amplifier (306) for compensating the predetermined characteristics of the power amplifier; and means for tuning (Vb1 of circuit 303) the driver stage (304) so that the output of the power amplifier is linear over the input power range of the power amplifier (see Figs. 3-4 and from line 44 of column 7 to line 11 of column 8).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8-11 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hau et al. (US 6,353,360) in view of Mitzlaff (US 5,757,229).

Regarding claims 1-2, 4, 6, 8, and 10-11, Hau et al. reference discloses a linear power amplifier (Fig. 3) wherein a driver stage amplifier (304) serially coupled to a power amplifier (306) and provides predistortions (or compensation or bias; see column 7, lines 65-) to the power amplifier (306); the driver stage amplifier which has opposite gain and phase (similar to what it is disclosed in the inventive Fig. 4) responses to that of the power amplifier, which is a function of the power input level, so that when it (the driver stage) is combined with the power amplifier (or the final stage amplifier 306), the linear amplifier is formed. Hau et al. does not clearly teach the final stage amplifier is a Doherty amplifier, which comprises a peak amplifier and a carrier amplifier, for receiving a compensation signal or a bias signal from the driver stage. Mitzlaff teaches an amplifier circuit comprising a Doherty amplifier (carrier amplifier 105 and peak amplifier 107) with external controllable bias signals provided to the Doherty amplifier. It would have been obvious to one person having ordinary skill in the art at the time the invention

was made to implement the final stage power amplifier as a Doherty amplifier because it provides a linear power amplifier with high efficiency power output (column 1, lines 5-6).

Regarding claims 3, 5 and 9, Hau et al. (Fig. 5A-b & 7A-B) the compensation(s) for the power amplifier are selected to provide gain expansion and phase compression as a function of input and/or output power.

Regarding claims 14-16, Hau et al. discloses the claimed invention of claim 12 (see Figs. 3-4 and from line 44 of column 7 to line 11 of column 8) except for the final stage amplifier (306) is a Doherty amplifier, which comprises a peak amplifier and a carrier amplifier, for receiving a compensation signal or a bias signal from the driver stage. Mitzlaff teaches an amplifier circuit comprising a Doherty amplifier (carrier amplifier 105 and peak amplifier 107) with external controllable bias signals provided to the Doherty amplifier. It would have been obvious to one person having ordinary skill in the art at the time the invention was made to implement the final stage power amplifier as a Doherty amplifier because it provides a linear power amplifier with high efficiency power output (column 1, lines 5-6).

Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hau et al. (US 6,353,360), Mitzlaff (US 5,757,229), Sigmon (US 5,739,723), Alley (US 6,320,462), Leixnerovich et al. (US 6,374,092), Li (US 6,242,979), Long (US

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5,886,575), Butler et al. (US 4,590,436), Sigmon et al. (US 6,097,252), and Dent (US 6,133,788) disclose relevant art to the claimed invention.

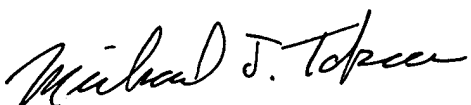
Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 703-605-4244. The examiner can normally be reached on 8:30 to 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Tokar can be reached on 703-305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are 703- 308-7724 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-6789.

KN
December 30, 2002


Michael Tokar
Supervisory Patent Examiner
Technology Center 2800